EDITORIALS

A BICENTENNIAL EDITORIAL ESSAY

A Broader Knowledge Base for Medicine

FOR A HUNDRED YEARS or so the focus of medicine—and its knowledge base—has centered increasingly on medicine as a rational science primarily concerned with how the human body works and on the care, treatment and prevention of what might be called the more or less mechanical malfunctions of the human organism. Considerably less attention has been given to the function and malfunction of the whole person, although lip service was paid to this approach by medical science, and many physicians continued to be very much concerned with it. But human behavior, particularly emotional behavior, and its malfunctions can often be more irrational than rational, and rational science by its very nature has tended to reject whatever is irrational, much as organic tissue will reject a substance foreign to it. As American medicine enters the third century of the nation's history it seems important to consider the impact of this, and also some of the effects of human interdependence within the closed biosphere, and the governance of this interdependence. All of these relate to the knowledge base that will be required of medicine in the future.

There are many signs that rational scientific medicine, as it has developed so far, may be falling short of both public and professional expectations for it. The public seems to be turning more openly to alternative systems of care. For example, acupuncture is being widely sought, chiropracty has been given new acceptance and standing in government programs, and there is increasing reference to something called holistic medicine. And on the professional side such things as the value of a routine physical examination and even some surgical procedures are being questioned by physicians themselves. Perhaps scientific medicine was oversold. In any case it does not seem to be able to do all that it claimed for itself or all that was claimed for it, although there surely have been notable achievements. The bottom line, to use a current expression, is to what extent there is value received for the dollars spent for medical science and health care, and here it appears that the gains in better health, greater well-being and increased quality of life have failed to match the rapidly rising costs. The result is some disillusionment and more supervision and direction of expenditures for research in medicine and for medical education and patient care.

It seems that medicine may have lost something in its absorption with rational science. Perhaps what was lost is the recognition that medicine is and always must be something more than a precise science. Medicine deals with human beings, and human behavior is not always rational in terms of scientific protocol. Many scientifically trained physicians have been surprised to discover the extent to which patients fail to follow their directions or advice, and on a national scale the Surgeon General has found much the same thing in his ten-year all-out campaign against cigarette smoking. There is an obvious need to take more account of irrational as well as rational behavior in healthy persons as well as sick ones. The behavioral sciences need somehow to become a more integral part of the knowledge base for medicine. Fortunately this has begun to occur, and it is likely that medicine will contribute as much to the behavioral sciences as it receives from them, as has happened to so many disciplines that have become adjunct to medicine in recent years.

But something else is going on that seems certain to extend the knowledge base of medicine even further. Physicians increasingly find themselves at the central point or interface where health, well-being or quality of life is or is not achieved by persons who must live in increasing interdependence with an ever more complex social and technological environment. This adds new dimensions to medicine. Health, well-being and quality of life—or the lack of them—all depend upon the individual person and the person's environment, and the interaction between them. A physician therefore must not only have some knowledge of the person and of human behavior, but also some awareness of the characteristics of the environment and an understanding of the re-

lationships of persons to their environments. This requires something more than a traditional working knowledge of what we now think of as scientific medicine. Further, human interdependence with respect to health, well-being and quality of life in the closed biosphere will inevitably become worldwide, and this will just as surely give rise to some form of governance or ordering of this interdependence. Some kind of system will emerge which will have health and well-being in an interdependent society as its focus. This system will somehow have to respond to the rationalities of medical sciences as these become established and the irrationalities as well as the rationalities of human behavior in relationship to the realities of social interdependence within the closed biosphere. There are those who say that all this is beyond the scope of medicine, but one wonders if this can be so. Medicine is the authoritative profession to determine what is health and what unhealth, and for unhealth (which is always a function of persons) to determine what is wrong, what is likely to happen and what can be done about it. An adequate knowledge base is needed to carry out this function. It would appear, therefore, that increasing human interdependence will demand still more of physicians and of medicine in new dimensions of the social as well as the behavioral sciences.

There is considerable to suggest that a start is already being made toward creating the broader knowledge base that will be needed for medicine. So far the effort seems spotty with some behavioral science finding its way into the medical school curriculum, and with some physicians who have entered the social, economic and political fray in behalf of medicine, that is physicians and patients, beginning to acquire some knowledge and skills in the general area of the social sciences. But much more will be necessary to incorporate needed new disciplines and skills into the research, education and practice of medicine.

To conclude, some years ago the Committee on the Role of Medicine in Society of the California Medical Association found the essential functions of physicians to be the following:

1. To render authoritative opinions concerning health with respect to (a) what is wrong, (b) what is probably going to happen, (c) what can be done about it.

2. To participate in decision making at all levels of health care.

3. To perform procedures and services as (a) problem solver, (b) manager, (c) skilled technician, (d) teacher or advisor, (e) advocate.

If these are indeed the essential functions of physicians in an increasingly interdependent world where health, well-being and quality of life are being sought by all, the knowledge base for medicine must be broadened sufficiently to be adequate to the task. Today, as America enters its third century, it is time for medicine to prepare for what are and will be some of the medical problems the nation will face in the century ahead.

—MSMW

Aspiration Pneumonitis — A Continuing Problem

As I write these comments, I have just been consulted concerning a patient with severe aspiration pneumonitis. He will almost certainly die. The aspiration occurred in a very predictable fashion according to the article by Ruggera and Taylor that appears elsewhere in this issue. Yet this tragedy would almost certainly not have been avoided if the article had appeared in an earlier issue or if the anesthetization of this unfortunate patient had been carried out differently. The article reports nothing not reported before. As the references quoted attest, the problem is old and well recognized. There is no paucity of prophylactic procedures and the warning signs are plentiful. But what may be a common component of this syndrome is not mentioned in the list of articles referred to—a failure of those managing anesthesia to heed the warnings.

Pulmonary aspiration is a problem not restricted to operating rooms. It can occur whenever patients' reflexes and awareness are obtunded, and one hopes the word "anesthesia" in the title of the present article will not unduly limit the audience. Trauma, drug poisoning, stroke, diabetic coma, epilepsy and other similar conditions threaten patients with this unhappy situation.

Aspiration must not be a rare occurrence judging from the frequency of review articles. Certainly the message is not a complex one. Uncon-